

REMARKS

The Examiner has rejected the title for lack of description. The title has been amended to "CORRECTOR OPTIC FOR COMPENSATING SPHERICAL AND COMA ABERRATIONS GENERATED BY A PRISM."

Claims 3, 13 and 18 have been amended in order to correct a grammatical error.

Claims 1, 4, and 14 have been rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,009,942 to Hirose (Hirose). The threshold issue under section 102 is if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. MPEP 2131.

Hirose discloses a zoom lens device which permits interchange of the zooming section. Claim 1 recites a corrector optic for being optically disposed *between a prism and an objective lens of a camera*, comprising at least two lenses for compensating spherical and coma aberrations generated by the prism (italics added). Hirose recites "coma and chromatic aberrations of magnification created at the time of zooming may be corrected by constructing the variator lens group in the manner as described hereinbelow." Col. 3, lines 34-37. The variator lens group is next described on column 5, lines 8-10, "the zooming section comprises: a part 11 including a group of focusing lenses, a group of variator lenses, and a group of compensator lenses," with respect to Figure 1. First, the variator lens corrects for coma and chromatic aberrations of the

zooming lens, not the prism. Hirose makes no reference to correcting coma and chromatic aberrations of the prism. Second, in the office action mailed January 16, 2003, the Examiner admits that part 11 of Hirose is the objective lens (see page 2 regarding claims 4 and 14). The group of variator lenses is *within* the objective lens, not between a prism and an objective lens of a camera, as recited in claim 1. In light of the above points Applicant respectfully maintains that Hirose fails to anticipate claim 1.

With respect to claim 4, although the Examiner does not identify which structure within Hirose is the corrector optic of claim 4, Hirose recites that the spherical and axial chromatic aberrations can be corrected by the fixed lens group. In the zoom lens of Hirose, coma and chromatic aberrations of magnification created at the time of zooming may be corrected by constructing the variator lens group. Col. 3, lines 30-37. It seems that the Examiner is referring to the variator lens group, which as the Examiner has pointed out is within the objective lens, not between the objective lens and the prism. Finally, the variator lens group corrects for coma and chromatic aberrations of magnification created at the time of zooming, not generated by the prism. Hirose fails to anticipate claim 4.

Although claim 14 differs from claim 4, the same arguments directed toward claim 4 apply to claim 14. Claim 14 is not anticipated by Hirose.

Claims 1, 2, 4, 5, 14, 15, 17, and 19-21 have been rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,726,809 to U.S. Patent No. 5,726,809 to Griffith (Griffith). Griffith discloses a camera system and an optical adapter to reduce image format size. Griffith discloses that there are four causes of difficulty in correcting undesirable optical effects:

1. The design of the lens attachment optical system is asymmetric about the exit pupil of the objective lens system (increases difficulty in correcting distortion, coma, and lateral color)(col. 5 line 67-col. 6 line 5);
2. The image formed by the objective lens system is the object viewed by the attachment and it is located inside the lens attachment optical system (increases difficulty in correcting distortion, coma, and lateral color)(col. 6, lines 5-9);
3. A long back focal length (BFL) requirement and need to reduce image height imposes additional difficulties (increases difficulty in correcting spherical, coma, astigmatism, and distortion)(col. 6, lines 10-24); and
4. Aperture stop is located in front of the negative lens unit and this location corresponds to the location of the exit pupil of the objective lens system (increases difficulty in correcting coma, astigmatism, and distortion)(col. 6, lines 28-32).

First, Griffith fails to disclose a corrector optic for being optically disposed between a prism and an objective lens . . . for compensating spherical and coma aberrations *generated by the prism*. Griffith is clear on the source and cause of the undesirable optical effects and they do not include any generated by a prism. Griffith

provides a solution for the problems stated above, but fails to disclose compensating spherical and coma aberrations generated by a prism. By failing to recognize the prism as a source of such aberrations, Griffith cannot disclose compensating for such aberrations and cannot anticipate claim 1.

Second, the solution provided by Griffith balances the aberrations and achieves good performance when the *primary objective lens system* meets the criteria described within. Col. 6, lines 35-37. Griffith is not providing a rear lens attachment to correct the problems, as implied by the Examiner in the office action, and therefore cannot be a corrector optic for being optically disposed between a prism and an objective lens of a camera . . . for compensating spherical and coma aberrations generated by the prism, as recited in claim 1. Therefore, claim 1 is not anticipated by Griffith.

Claim 2 and is dependant on claim 1 and is not anticipated by Griffith.

Although claim 4 differs from claim 1, the same points made with respect to claim 1 apply to claim 4. Therefore, claim 4 is not anticipated by Griffith.

Claim 5 is dependant on claim 4 and is not anticipated by Griffith.

Although claim 14 differs from claim 1, the same points made with respect to claim 1 apply to claim 14. Therefore, claim 14 is not anticipated by Griffith.

Claims 15 and 17 are dependant on claim 14 and are not anticipated by Griffith.

Although claim 19 differs from claim 1, the same points made with respect to claim 1 apply to claim 19. Therefore, claim 19 is not anticipated by Griffith.

Claims 20 and 21 are dependant on claim 19 and are not anticipated by Griffith.

Claims 2, 3, 5, 8, 13, 15, 16 and 18 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Hirose in view of Griffith. To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference must teach or suggest all the claim limitations. MPEP § 2142.

First, neither Hirose nor Griffith disclose compensating for coma and spherical aberrations generated by a prism, so there can be no motivation to combine the two in order to achieve that end. Second, there is no expectation that a combination of Hirose and Griffith would disclose a corrector optic . . . for compensating spherical and coma aberrations generated by a prism. In fact, Applicant submits that such a combination would disclose a camera lens with a reduced image size and compensation for undesired effects from zooming. Finally, neither Hirose nor Griffith, either separately or in combination, teach or suggest all the limitations of independent claims 1, 4 and 14.

Therefore, the combination of Hirose and Griffith cannot make dependant claims 2, 3, 5, 8, 13, 15, 16 and 18 unpatentable.

Claims 6 and 7 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Griffith in view of U.S. Patent No. 6,157,781 to Konno et al. (Konno). Konno discloses a lens barrel which is detachably mountable on a camera body, which comprises a lens system and a low-pass filter, wherein the low-pass filter is detachably mountable with respect to an optical path of the lens system. Col. 2, lines 34-37.

Neither Griffith nor Konno, either separately or in combination, teach or suggest all the limitations of independent claim 4. Therefore, the combination of Griffith and Konno cannot make dependant claims 6 and 7 unpatentable.

Claims 9-12 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Hirose in view of Konno.

Neither Hirose nor Konno, either separately or in combination, teach or suggest all the limitations of independent claim 4. Therefore, the combination of Griffith and Konno cannot make dependant claims 9-12 unpatentable.

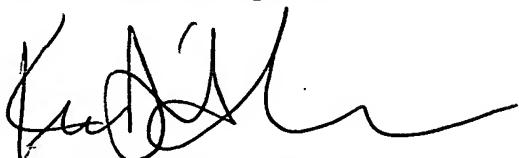
Claims 1-21 are in condition for allowance.

Applicant respectfully requests that the Examiner allow all the claims and direct the application to issue.

In view of the foregoing, consideration and an early allowance of this application are earnestly solicited.

Respectfully submitted,
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